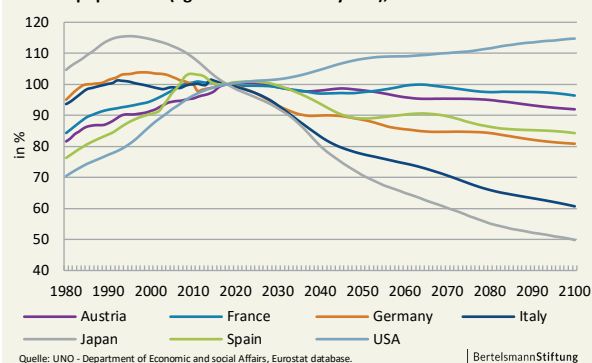




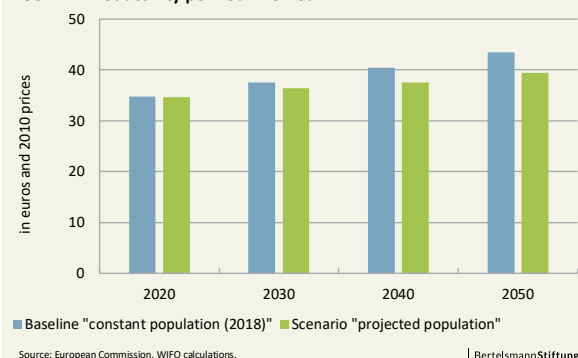
Macroeconomic effects of demographic aging in Spain

Figure 1 Historic and expected development of working-age population (aged between 15-64 years), 1980-2100



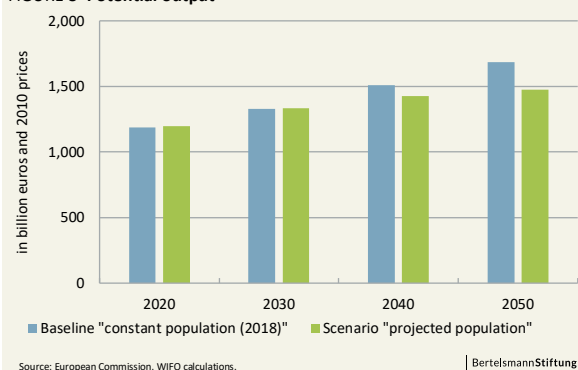
Projections suggest that the working-age population in Spain will age over the course of the next 30 years and shrink continuously from the mid-2020s onwards. The decline is expected to reach almost 12% between 2020 and 2050 (see Fig. 1). This will attenuate the country's overall economic productivity and have considerable consequences for overall economic development. This overview shows how demographic aging (the scenario "projected population") in Spain until 2050 will affect key macroeconomic indicators, compared to a scenario in which the population remains constant at the level of 2018 (the baseline "constant population (2018)").

FIGURE 2 Productivity per hour worked



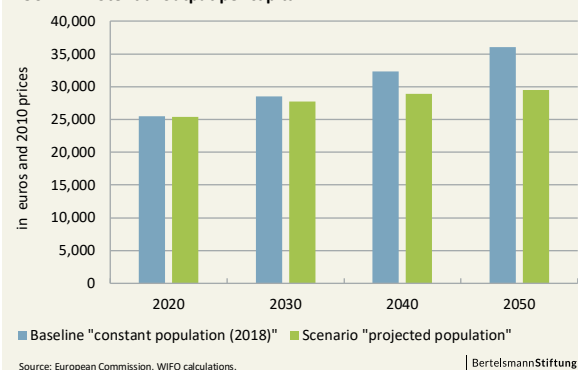
The negative effects of demographic aging are expected to attenuate the growth of labor productivity until 2050. The difference between the scenario "projected population" and the baseline scenario should increase from around 1,2 euros per hour worked in 2030 to 2,8 euros in 2040 and almost 4,1 euros in 2050 (in 2010 prices) (see Fig. 2).

FIGURE 3 Potential output



Since the working-age population is expected to continue to grow until the end of the 2020s, the growth of the real gross domestic product (GDP) in the scenario "projected population" should be even stronger until 2030 than it is in the baseline scenario (+4 billion euros, in 2010 prices). Subsequently, however, it is expected to be significantly attenuated by demographic aging, to 5.6% in 2040 and to more than 12% in 2050 in comparison with the baseline scenario (see Fig. 3). In absolute terms, demographic aging and its negative effects are expected to attenuate GDP by more than 80 billion euros in 2040 and over 200 billion euros Euro in 2050 (in 2010 prices).

FIGURE 4 Potential output per capita

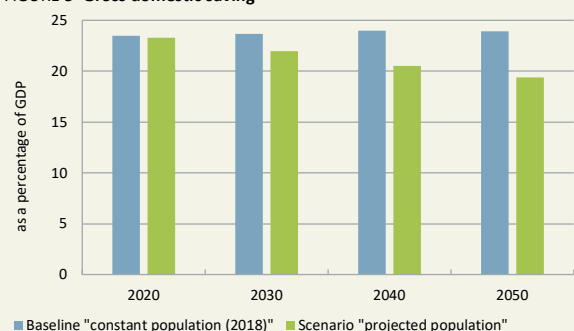


With respect to real GDP per capita, which is in effect the average material prosperity per inhabitant, this is expected to result in the following: In 2030 it will amount to 750 euros lower than if the demographic aging of the coming decades had not taken place. In 2040 it will be lower by around 3,400 euros and in 2050 by about 6,500 euros (in 2010 prices) (see Fig. 4).

In the baseline scenario, the savings rate remains virtually unchanged until 2050 (see Fig. 5). Demographic change will bring about a sharp rise in the number of people of retirement age and a simultaneous decline in the working-age population. This will lead to a



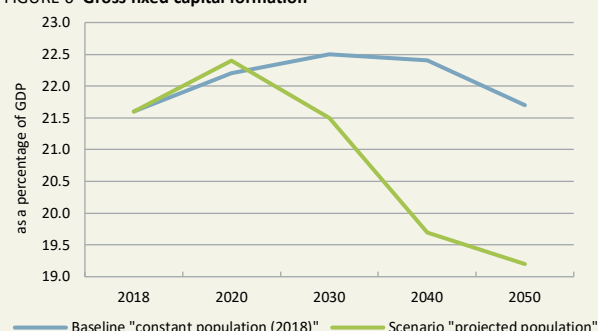
FIGURE 5 Gross domestic saving



Source: European Commission, WIFO calculations.

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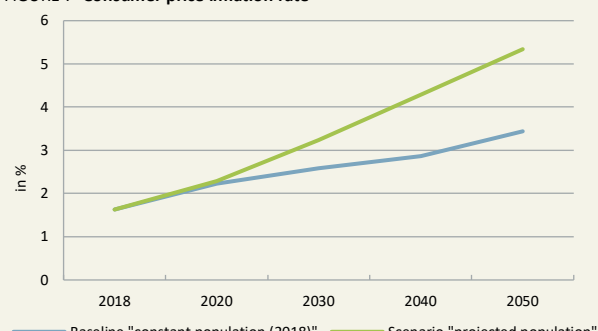
FIGURE 6 Gross fixed capital formation



Source: European Commission, WIFO calculations.

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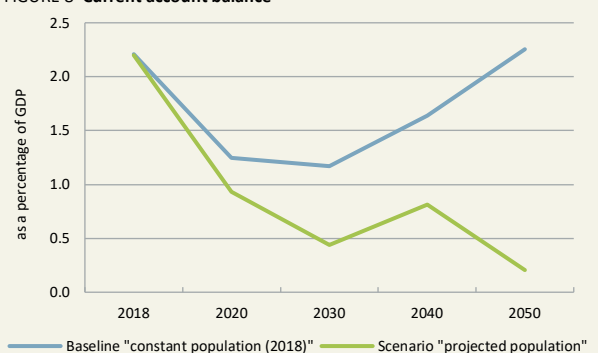
FIGURE 7 Consumer price inflation rate



Source: European Commission, WIFO calculations.

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FIGURE 8 Current account balance



Source: European Commission, WIFO calculations.

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significant decline in the savings rate in the coming decades. The drop is expected to amount to 3 percentage points – or nearly 14% – between 2018 and 2040, and to more than 4 percentage points (or about 18%) by 2050. In 2040, it should be lower by 3.5 percentage points than it would be without demographic aging, and by 4.6 percentage points in 2050.

This will also reduce the supply of domestic capital and thus the scope for domestic investment (see Fig. 6). The investment ratio should drop by almost 2 percentage points (or almost 9%) between 2018 and 2040, and by almost 2.5 percentage points (or 11%) between 2018 and 2050. In 2040 and 2050, the investment ratio is expected to be 2.7 and 2.5 percentage points lower than in the baseline scenario. However, in an open economy, the domestic capital supply can be supplemented by capital inflows from abroad.

The simulation calculations also confirm the theoretical assumption of rising inflationary pressure due to demographic aging (see Fig. 7). In 2040, the inflation rate in the scenario "projected population" is expected to be 1.4 percentage points above the baseline scenario; in 2050, the difference is about 2 percentage points.

The declining savings rate and a simultaneously rising consumption rate, due to the growing share of pensioners, are in turn expected to lead to an increase in domestic consumption, which means that fewer goods and services will be available for export. The rising price level, due to the growing inflation rate, in turn means that foreign demand for domestic goods tends to decline. Fig. 8 reflects the expected decline of the current account surplus in Spain due to aging. It is projected to decline from about 2% of GDP to 0.8% of GDP between 2018 and 2040, and to 0.2% of GDP by 2050. Nevertheless, the current account balance is expected to remain positive.

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Bertelsmann Stiftung (ed.) (2019). Consequences of ageing and directed technological change. Gütersloh.